What is claimed is:

1. A system for driving an optoelectronic device, comprising:

a buffer circuit for receiving a differential electrical signal;

a dedicated voltage regulator having an input adapted to receive a control signal and an output adapted to provide an output voltage that is a function of the control signal; and

a driver amplifier having a first input coupled to the output of said buffer circuit and a second input coupled to said voltage regulator and an output for providing a precisely controlled waveform to an optoelectronic device.

2. A system as in claim **1**, wherein said buffer circuit comprises:

an attenuating input stage having a pair of resistors; and

an amplifying output stage.

3. A system as in claim **1**, wherein said buffer circuit comprises:

an attenuating input stage having a pair of resistors; and

an amplifying output stage; and

said driver amplifier comprises:

first and second amplifying transistors adapted to receive a differential input at their respective base regions; and

first and second load resistors connected between the respective collector regions of said first and second transistors and the dedicated voltage regulator;

a common connection of the collector region of said second transistor and said second load resistor adapted to provide an output to an optoelectronic device.

4. A system as in claim **1**, wherein said driver amplifier comprises:

first and second amplifying transistors adapted to receive a differential input at their respective base regions; and

first and second load resistors connected between the respective collector regions of said first and second transistors and the dedicated voltage regulator;

a common connection of the collector region of said second transistor and said second load resistor adapted to provide an output to an optoelectronic device.

5. A system as in claim **4**, wherein the emitters of said first and second transistors are connected to form a common node, and further comprising:

a third transistor connected between said common node and ground.

6. A system as in claim **4** further comprising:

a capacitor connected between said output voltage and ground.

7. A system as in claim **4**, further comprising:

a compensation load connected coupled between the collector region of said first transistor and ground.

8. A system as in claim **7**, further comprising:

a capacitor connected between said output voltage and ground.

9. A system as in claim **7**, wherein said compensation load comprises:

a resistor; and

at least one diode connected in series with said resistor.

10. A system as in claim **1**, further comprising:

a laser diode.

11. A system as in claim **10**, wherein said laser diode is a VCSEL.

12. A system as in claim **1** further comprising:

an additional buffer circuit for receiving a differential electrical signal;

an additional dedicated voltage regulator having an input adapted to receive a control signal and an output adapted to provide an output voltage that is a function of the control signal; and

an additional driver amplifier having a first input coupled to the output of said additional buffer circuit and a second input coupled to said

additional voltage regulator and an output for providing a precisely controlled waveform to an additional optoelectronic device.

13. A system as in claim **12**, wherein said optoelectronic device and said additional optoelectronic device are light emitting diodes formed as an integrated array.

14. A system as in claim **13**, wherein said integrated array comprises:

VCSEL's.

15. A system as in claim **13** wherein said light emitting diodes have their cathodes connected in common and to ground.

16. A system as in claim **1**, wherein said driver amplifier comprises:

a first amplifier having first and second differentially connected transistors and a first current source;

a second amplifier having third and fourth differentially connected transistors and a second current source; and

a time delay network connected between the inputs of said first and second amplifiers.

17. A system as in claim **16** wherein a first input is coupled to the base of the first and third transistors and a second input is coupled to the base of the second and fourth transistors.

18. A system as in Claim **17** wherein the collector of the first transistor is connected to the collector of the fourth transistor and the collector of the second transistor is connected to the collector of the third transistor.

19. A system as in claim **1**, wherein said driver amplifier comprises:

first and second amplifying transistors adapted to receive a differential input at their respective base regions, the emitters of said first and second transistors being connected to form a common node;

first and second load resistors connected between the respective collector regions of said first and second transistors and the dedicated voltage regulator;

a common connection of the collector region of said second transistor and said second load resistor adapted to provide an output to an optoelectronic device.

a third transistor connected between said common node and ground;

said dedicated voltage regulator has an output transistor;

a fourth transistor connected to said output transistor forming a first current mirror; and

a fifth transistor connected to said third transistor forming a second current mirror.

20. A system as in claim **19**, further comprising:

sixth and seventh transistors forming a third current mirror; and

a third resistor connected to said seventh transistor.

21. A system as in claim **20**, further comprising:

a comparator connected to the common connection of said third resistor and said seventh transistor.

22. A method of supplying a channel specific voltage to each one of a plurality of common cathode connected diodes in a laser diode array, comprising the steps of:

buffering first and second differential electrical input signals and providing first and second buffered differential electrical output signals to first and second differential amplifiers;

generating first and second regulated voltages in response to first and second control signals;

supplying the first regulated voltage and the first buffered electrical output signal to a first driver amplifier adapted to supply a drive voltage to the anode of a first one of the plurality of common cathode connected diodes; and

supplying the second regulated voltage and the second buffered electrical output signal to a second driver amplifier adapted to supply a drive voltage to the anode of a second one of the plurality of common cathode connected diodes.